WHAT IS CLAIMED IS:

1. A copper base alloy comprising at least one of 8 to 45 wt% of zinc and 0.2 to 12.0 wt% of tin, 20 to 1000 ppm of carbon, and the balance being copper and unavoidable impurities.

2. A copper base alloy as set forth in claim 1, which further comprises one or more elements which are selected from the group consisting of 0.01 to 10.0 wt% of manganese, 0.01 to 10.0 wt% of aluminum, 0.01 to 3.0 wt% of silicon, 0.01 to 15.0 wt% of nickel, 0.01 to 5.0 wt% of iron, 0.01 to 5.0 wt% of chromium, 0.01 to 2.5 wt% of cobalt, 0.01 to 3.0 wt% of titanium, 0.001 to 4.0 wt% of bismuth, 0.05 to 4.0 wt% of lead, 0.01 to 2.0 wt% of magnesium, 0.01 to 0.5 wt% of phosphorus, 0.0005 to 0.5 wt% of boron, 0.01 to 0.1 wt% of calcium, 0.01 to 0.1 wt% of yttrium, 0.01 to 0.1 wt% of strontium, 0.01 to 1.0 wt% of beryllium, 0.01 to 0.5 wt% of zirconium, 0.1 to 3.0 wt% of niobium, 0.1 to 3.0 wt% of vanadium, 0.1 to 3.0 wt% of hafnium, 0.1 to 3.0 wt% of molybdenum and 0.1 to 3.0 wt% of tantalum, the total amount of said elements being 50 wt% or less.

3. A copper base alloy as set forth in claim 1, wherein a phase having a melting point of 800 ℃ or less, other than an alpha phase, has a volume percentage of 20 % or less.

4. A copper base alloy as set forth in claim 1, wherein a difference in temperature between liquidus and solidus lines is 30 ℃ or more.

5. A method for producing a copper base alloy, said method comprising the steps of:

heating and melting raw materials of a copper base alloy containing at least one of 8 to 45 wt% of zinc and 0.2 to 12.0 wt% of tin;

causing said raw materials of said copper base

alloy to contain 20 to 1000 ppm of carbon; and

cooling said raw materials of said copper base alloy.

6. A method for producing a copper base alloy as set forth in claim 5, wherein said raw materials of said copper base alloy contain carbon absorbed on the surface thereof.

7. A method for producing a copper base alloy as set forth in claim 5, wherein said raw materials of said copper base alloy contain a mother alloy containing carbon.

8. A method for producing a copper base alloy as set forth in claim 5, wherein said raw materials of said copper base alloy contain 20% or more of a copper base alloy having a liquidus line temperature of 1050 ℃ or less with respect to the weight of a molten metal of said raw materials of said copper base alloy.

9. A method for producing a copper base alloy as set forth in claim 5, wherein said raw materials of said copper base alloy contain a material which is surface-treated with tin.

10. A method for producing a copper base alloy as set forth in claim 5, wherein said raw materials of said copper base alloy are heated and melted in a vessel which is coated with a solid material containing 70 wt% or more of carbon.

11. A method for producing a copper base alloy as set forth in claim 5, which further comprises a step of adding a solid deoxidizer, which has a stronger affinity with oxygen than carbon, when said raw materials of said copper base alloy are melted.

12. A method for producing a copper base alloy as set

forth in claim 11, wherein said solid deoxidizer is selected from the group consisting of B, Ca, Y, P, Al, Si, Mg, Sr and Be, the amount of said solid deoxidizer being 0.005 to 0.5 wt% with respect to the weight of a molten metal of said raw materials of said copper base alloy.

13. A method for producing a copper base alloy as set forth in claim 5, wherein said copper base alloy further contains one or more elements which are selected from the group consisting of 0.01 to 10.0 wt% of manganese, 0.01 to 10.0 wt% of aluminum, 0.01 to 3.0 wt% of silicon, 0.01 to 15.0 wt% of nickel, 0.01 to 5.0 wt% of iron, 0.01 to 5.0 wt% of chromium, 0.01 to 2.5 wt% of cobalt, 0.01 to 3.0 wt% of titanium, 0.001 to 4.0 wt% of bismuth, 0.05 to 4.0 wt% of lead, 0.01 to 2.0 wt% of magnesium, 0.01 to 0.5 wt% of phosphorus, 0.0005 to 0.5 wt% of boron, 0.01 to 0.1 wt% of calcium, 0.01 to 0.1 wt% of yttrium, 0.01 to 0.1 wt% of strontium, 0.01 to 1.0 wt% of beryllium, 0.01 to 0.5 wt% of zirconium, 0.1 to 3.0 wt% of niobium, 0.1 to 3.0 wt% of vanadium, 0.1 to 3.0 wt% of hafnium, 0.1 to 3.0 wt% of molybdenum and 0.1 to 3.0 wt% of tantalum, the total amount of said elements being 50 wt% or less.

14. A method for producing a copper base alloy as set forth in claim 5, wherein a phase of said copper base alloy having a melting point of 800 ℃ or less, other than an alpha phase, has a volume percentage of 20 % or less.

15. A method for producing a copper base alloy as set forth in claim 1, wherein a difference in temperature between liquidus and solidus lines of said copper base alloy is 30 ℃ or more.